

# Guitar synths

**As his first guitar synth approaches its 30th birthday, Norm Leet takes a nostalgic look back at the evolution of a piece of gadgetry that has brought a whole new world of sounds to the guitarist's fingertips. And, as he discovers — from the earliest models that were so big you needed a dedicated guitar to play them to today's sophisticated, streamlined systems — Roland's guitar synths have come a long way in three decades**

**T**he first question that I should address is: what is a guitar synth? Simply put, a guitar synth is a synth module whose input device is a guitar instead of a keyboard. The most important part of any guitar synth system is the divided — or hex — pickup. This allows each string to be treated individually and for the attached synth to be able to detect finger vibrato and string bending. Originally, the electronics took up so much space they had to be fitted into a specially designed guitar that was part of the whole synth system, but nowadays all that has been shrunk to a small unit that can be fitted to any guitar (even yours!)

The synth module detects the fundamental frequency from each string so that the pitch information can be extracted and used to drive the synth voices with the same articulation as that of the strings. Modern systems send all the pitch information as MIDI to allow you to control external modules or keyboards too. This

also means that pitch information can be recorded by a MIDI sequencer.

That's the basics. But to put flesh on the bones, here are some milestones in guitar synth history that chart how it developed into the instrument we know today:

## **1977: the beginning**

Roland pips ARP to the post and releases the first practical guitar synth. Unlike the ARP Avatar, the Roland system consisted of a dedicated guitar (the GS-500) built by Ibanez, a desktop synth unit (the GR-500) and a substantial multicore cable to connect them together. The GR-500 had five sections: the straight-through guitar, poly-ensemble, bass,

melody, and an 'external synthesizer' section designed to interface with and control an analogue synth (I used a Roland SH-09). This pioneer was unique for the 'infinite sustain' that took the signals from the divided pickup and then sent them back up the strings so they could react to the magnet that takes the place of the neck pickup. In short, it was like having six e-bows built into the guitar. Steve Hackett and Rush were among those who used it with some success.

## **1979: a radical rethink**

Only two years later Roland released a new system, the GR-300, which changed the emphasis completely. There was still a

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dedicated Ibanez guitar controller, but the synth unit was now a floor unit (in a fetching blue) still connected by a substantial cable. It was used by jazz legend Pat Metheny, Andy Summers of the Police and, last but not least, me! (I bought this system in 1980.)

### 1985: MIDI at last

The next generation, the GR-700, was the first to use a keyboard-based synth engine (the JX-3P). This meant that MIDI was also part of the deal. Luckily for me, the previous guitars also worked with it. Famous users are a bit hard to come by and the best I can do is Sique Sique Sputnik!

### 1986: use your own guitar

With the launch of the GK-1, Roland unveiled a synth that could be fitted to any guitar. The GK was, however, still relatively large and used the same substantial cable as the previous systems. The mid-'80s also saw the release of the GVI-70, a guitar-to-MIDI converter. It may not have had any sounds on board, but the GVI-70 did demonstrate that detailed MIDI control by a guitar was now feasible.

### 1992: a new generation

The GR-1 is the daddy of most current Roland synths. Unveiled to the public in 1992, it boasted digital sample and synthesis sound generation with onboard effects, fast pitch tracking and full MIDI capabilities. The result was a synth that produced great sounds with decent strings and pianos.

The GR-1 first saw the light of day at the same time as the GK-2 pickup, which was released, along with a much slimmer cable, to connect it to the new synth.

Every Roland guitar synth released since 1992 has added to the GR-1's impressive list of features – usually at a lower cost to the preceding model – which brings us to the latest synth, the GR-20. Comparing the price of the GR-20 with the GR-500 makes for interesting reading, as the modern system costs barely a quarter of its ancestor – and that's not taking inflation into account. The other main difference is ease of use.



## What is the attraction of the guitar synth?

There are two ways to approach it: from the synthesist's angle, or the guitarist's. As far as the synthesist is concerned, the guitar is a far more expressive instrument than a keyboard as you have control over 'velocity' (how hard you pick a string) and modulation (string bends and finger vibrato).

Guitarists used to be put off by the complexity of the earlier systems. The current models are, however, much

more like a sophisticated stompbox with the GR-20 boasting edit functions on dedicated knobs. This means you can use your ears to determine the effect of edit parameters and simply stop when you get the results you are after. According to guitarists who use them in a more conventional way than I do, these edit functions can be used to add brass, strings, organ and lead synth to a song without a keyboard player.

### Use your synth successfully

Make sure the divided pickup is fitted correctly and that the string sensitivities have been set up. Also ensure the guitar is set up correctly as fret buzz can confuse the pitch tracking.

### Play it clean

Think about the sound you need for your musical passage. If you are looking to play a fast solo don't choose a sound with a slow attack. Also consider the phrasing of the instrument. For example, a sax sound played from a guitar can get much closer in feel than one played from a keyboard.

Don't forget the sound of your guitar. When mixed with the synth, the sum of the effects can be much greater than the parts. The hold foot pedal is a very useful way of creating keyboard-like parts such as strings or pads. You can also 'freeze' a pad chord – say GIM – and then noodle over the top of it for those essential 'Floyd' moments.

### And finally...

I hope I have answered some questions you may have had about guitar synthesis and perhaps persuaded you to investigate further. Here's to the next 30 years! ■